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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,610	04/19/2004	Yuri Glukhoy		1187

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EXAMINER

HASHMI, ZIA R

ART UNIT PAPER NUMBER

2881

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

* EFC

Office Action Summary	Application No. 10/826,610	Applicant(s) GLUKHOY, YURI	
	Examiner Zia R. Hashmi	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/19/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-29 are rejected under U.S.C. 103(a) as being unpatentable over Park (5,821,534), in view of McLoughlin et al. (US 2004/0222372 A1).

3. With respect to independent claim 1 and dependent claim 17, Park discloses a mass spectrometry system comprising: a sampling unit, an ionization device connected to said output of said sampling unit (col. 8, lines 19-20, 2 & 4 in Fig. 1, and Fig. 2), the ionization device forming a beam of ionized particles from said samples, said ionization device having an ionization device input and an ionization device output (col. 8, lines 19-29 and 2 & 4 in Fig. 1), a time-of-flight mass spectrometer, that has an input and output, and a deflector modulator connected to said ionization device output for deflecting said beam of ionized particles with a predetermined angle for dividing said beam of ionized particles into two independent flows guided along two independent trajectories (Abstract, lines 1-3, col. 7, lines 1-31, col. 8, lines 27-30, col. 9, lines 40-51 & equation 5, col. 10, lines 50-53, col. 12, lines 21-22, and Fig. 5), and a data acquisition and analysis unit that acquires data from said sampling unit, said ionization device, and said time-of-flight mass spectrometer, said data acquisition and analysis

Art Unit: 2881

unit having means for analysis of said data and for generating control data that controls and monitors operations of said sampling unit, said ionization device, and said time-of-flight (TOF) mass spectrometer (col. 8, lines 21-22 and 7-9 in Fig. 1). Their system uses electrostatic means for causing the ionized particles to be deflected in two different trajectories (col. 7, lines 15-20, col. 12, lines 17-20, and Fig. 5). Their TOF system also comprises an electrostatic field for causing said beams of ionized particles in each of said two independent trajectories to fly in a direct path from said mass spectrometer input to a side opposite to a side opposite to said mass spectrometer input and in a return path from said side opposite to mass spectrometer input towards said mass spectrometer input (beam path from unit 3 to detector 8), and a charged particle detector means for detecting positions of collisions of said charged particles with said charged particle detector means for determining the time of flight of said charged particles independently for each of said at least two flows, said charged particle detector means being located in the vicinity of said mass spectrometer input (7 and 8 in Fig. 1).

4. With respect to claim 1-16 and 18-29, Park fails to disclose a mass spectrometry system with a system carrying means and a sampling system installed in the system carrying means. McLoughlin et al., however, disclose a mass spectrometry system with a sampling carrying means (para0024, lines 1-5) with a sampling unit installed in the system carrying means having sample extraction means for extracting samples and an output (Abstract, lines 1-4, para 0023, lines 1-13, and 102 in Fig. 3).

It would have been obvious to one having ordinary skill at the time of the invention was made to combine methods and apparatus of Park and McLoughlin et al.

Art Unit: 2881


and features like plurality of angularly shifted quadrupole lenses for providing angular gradient of the electrostatic field, because Park teaches (col. 1, lines 17-19) that analysis of ions by mass spectrometers are instruments that are used to determine the chemical structures of molecules.

Conclusion

5. Park discloses (6,661,001) a method and apparatus for analyzing ions by TOF in which deflectors are used as gates to manipulate split ion beams.
6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473. The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

May 9, 2005


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800